Purifying process for phosphatidylserine having formula (I)

CH2OR1

CHOR₂

 $\dot{C}H_2O - P(=O) - OCH_2 - CH(NH_2) - COOH_2$

where R_1 e R_2 , identical or different, are a C_{10} - C_{30} acyl group; X is OH or OM, where M is chosen from the group of alkali metals, alkaline-earth metals, ammonium and alkyl ammonium,

and where the serine portion is in D, L or racemic form, and preferably in L form, comprising the extraction of said phosphatidylserines from a solution in a bydrocarbon solvent with a mixture of water and a polar organic solvent.

2 Process according to claim 1, in which said hydrocarbon solvent is chosen among toluene, xilene, x-heptane, n-hexane or cyclohexane.

- β. Process according to claim 1, in which said hydrocarbon solvent is used in an amount between 4 and 30 liters/kg of phosphatidylserine to be purified.
- 4. Process according to claim 3_{τ} in which said hydrocarbon solvent is used in an amount between 6 and 12 liters/kg of phosphatidylserine to be purified.
- 5. Process according to claim 1, in which said polar organic solvent is an alcohol solvent.
- 6. Process according to claim 5, in which said alcohol solvent is chosen among alcohols containing 1/to 5 carbon atoms.
- 7. Process according to claim 5, in which said alcohol solvent is chosen among secondary and tertiary alcohols.
- 8. Process according to claim 5, in which said alcohol solvent is i-propanol.

Process according to claim 1, in which said polar organic solvent is used in an amount between 0.2 and 2 liters/kg of hydrocarbon solvent used.

70. Process according to claim 6, in which said polar organic solvent is used in an amount between 0.3 and 1.2 liters/kg of hydrocarbon solvent used.

Process according to claim 1, in which the amount of water used is between 0.2 and 5 liters/kg of hydrocarbon solvent used.

W V

Process according to claim 14, in which the amount of water used is between 0.3 and 1 liter/kg of hydrocarbon solvent used.

Process according to claim 1, in which said extraction is carried out at a temperature between 0 and 70°C.

5 % 14. Process according to claim 17, in which said extraction is carried out at a temperature between 20 and 30°C.

5. Process according to claim 1, in which said phosphatidylserines having formula (I) are prepared by trans-phosphatidylation of phosphatidylcholines of matural or synthetic origin.